

## CLAIMS

We claim:

1. An inspection device including:

5           a light source;  
          a pellicle beamsplitter for receiving light from the light source and  
redirecting said light;  
          an aperture array for receiving light from the pellicle beamsplitter;  
          a dual telecentric object reimager including a plurality of lenses;  
10          a telecentric camera imager including a plurality of lenses; and  
          a camera for collecting focused light.

2. A process of inspecting a surface including bumps thereon, the  
process comprising:

15           scanning a surface using optics and a camera capable of  
determining light intensity for each pixel viewed;  
          measuring the light intensity at each pixel at a first elevation;  
          measuring the light intensity at each pixel at a second elevation;  
and  
20           determining the elevation of the surface using a Gaussian curve  
based upon the light intensities measured at the first and second elevations at  
each pixel .

3. The process of claim 2 further comprising:

25           scanning at least particular portions of a surface believed to  
contain protrusions extending outward from the surface using optics and a  
camera capable of determining light intensity for each pixel viewed;  
          measuring the light intensity at each pixel at a third elevation;  
          measuring the light intensity at each pixel at a fourth elevation; and  
30           determining the elevation of the protrusions using a Gaussian  
curve based upon the light intensities measured at the third and fourth  
elevations at each pixel .

4. The process of claim 3 further comprising:

35           determining the height of a protrusion by calculating the difference  
between the elevation of a protrusion and the elevation of the surface.

5. The process of claim 2 wherein an inspection device is used to perform the scanning and includes:

a light source;

a beamsplitter for receiving light from the light source and redirecting said light;

an aperture array for receiving light from the pellicle beamsplitter;

at least one reimager; and

a camera for collecting focused light.